CLAIM AMENDMENTS

1. (Currently Amended) A refractive index coupling distributed feedback semiconductor laser comprising a phase-shift structure, wherein when viewed from an almost central portion in a light distributed feedback direction in a region in which diffraction gratings are ~~formed~~ located, an average coupling coefficient $\kappa 2$ of a diffraction grating on one end face side is smaller than an average coupling coefficient $\kappa 1$ of a diffraction grating on other end face side, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}.

2. (Currently Amended) A complex coupling distributed feedback semiconductor laser ~~of a complex coupling type~~ in which an absolute value of a real part of a coupling coefficient is at least four ~~or more~~ times an absolute value of an imaginary part of the coupling coefficient, comprising a phase-shift structure, wherein when viewed from an almost central portion in a light distributed feedback direction in a region in which diffraction gratings are ~~formed~~ located, an average coupling coefficient $\kappa 2$ of a diffraction grating on one end face side is smaller than an average coupling coefficient $\kappa 1$ of a diffraction grating on other end face side, and the coupling coefficient $\kappa 2$ exceeds 100 cm^{-1}.

3. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, ~~wherein~~ including a plurality of phase-shift structures ~~is formed~~ at almost symmetrical positions about a central portion in a light distributed feedback direction in a region in which diffraction gratings are ~~formed~~ located.

4. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein a phase-shift structure is ~~formed~~ located at an almost central portion in a light distributed feedback direction in a region in which diffraction gratings are ~~formed~~ located.

5. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein, when a cycle of a diffraction grating is represented by Λ, a sum of phase-shift amounts given by all the phase-shift structures is almost $\Lambda/2$.

6. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein when a cycle structure of the diffraction grating is viewed in a light distributed feedback direction, a value of (duty of a high refractive index portion)/(duty of a

low refractive index portion) in a region ~~of~~ having the coupling coefficient $\kappa 1$ is ~~set to be~~ larger than ~~a~~ the value in a region ~~of~~ having the coupling coefficient $\kappa 2$.

7. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein, in a layer structure having a high refractive index ~~of~~ in the diffraction grating, the number of high refractive index layers ~~of~~ having the coupling coefficient $\kappa 1$ is ~~set to be~~ larger than the number of high refractive index layers ~~of~~ having the coupling coefficient $\kappa 2$.

8. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein ~~the thickness of~~ a layer of a low refractive index ~~existing~~ between a layer of a high refractive index in the diffraction grating and ~~the~~ an active layer ~~is set to be~~ of the laser has a thickness smaller in the region ~~of~~ having the coupling coefficient $\kappa 1$ than in the region ~~of~~ having the coupling coefficient $\kappa 2$.

9. (Currently Amended) ~~A~~ The distributed feedback semiconductor laser according to claim 1, wherein, when an equivalent refractive index acting when light is propagated through the region ~~of~~ having the coupling coefficient $\kappa 2$ is represented by n2, an equivalent refractive index acting when light is propagated through the region ~~of~~ having the coupling coefficient $\kappa 1$ is represented by n1, an average cycle of the diffraction grating in the region ~~of~~ having the coupling coefficient $\kappa 2$ is represented by $\Lambda 2$, and an average cycle of the diffraction grating in the region ~~of~~ having the coupling coefficient $\kappa 1$ is represented by $\Lambda 1$, $n2 \cdot \Lambda 2$ is almost equal to $n1 \cdot \Lambda 1$.